

Chapter 4

Incidents—Notification, Analysis, and Reporting

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Incidents—Notification, Analysis, and Reporting*

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* Major revision

Incidents—Notification, Analysis, and Reporting

4.1 Purpose and Scope

An “incident” is a sequence of events or conditions that could result in an accident, injury, illness, and/or a reportable occurrence. The term “incident” is used to broadly encompass many types of events because numerous environment, safety, and health (ES&H) requirements for incident notification, analysis, and reporting do not allow for simple categorization or development of procedures for each type of incident. Note that the Department of Energy (DOE) uses the word “occurrence” instead of “incident.”

The threshold response requirements for an incident vary by type (e.g., vehicle accident or chemical spill) and the severity (e.g., extent of injury or property damage). For example,

- For significant incidents, internal Laboratory procedures usually specify notifying the Fire Department, the Laboratory Emergency Duty Officer (LEDO), the appropriate managers, and perhaps Safeguards and Security. The Laboratory is subsequently required to notify DOE and, in some cases, federal, state, or local regulatory agencies of certain types of incidents.
- It is LLNL’s policy that supervisors analyze all incidents, no matter how seemingly minor, to understand the causes and to prevent a recurrence. The DOE, which often participates in or observes LLNL’s analysis activities, may require a formal incident analysis. The DOE may also conduct its own analysis and develop a report of major incidents.
- Supervisors are expected to collect information and prepare reports on workers who have sustained occupational injuries and illnesses, as specified in Section 4.5.2.

In many cases, however, management’s judgment and the information and processes described in this chapter are to be used to determine the appropriate response to an incident after emergency conditions are stabilized.

This chapter

- Focuses on the necessary management responsibilities for reporting and notification following an accident, *after* emergency response and health care needs have been satisfied.

- Provides guidance on managing various responsibilities arising from ES&H incidents.
- Describes
 - The notification process for incidents.
 - The procedures for preserving the incident scene to retain pertinent information.
 - The incident analysis process.
 - Reporting procedures and the required reports following an incident.

Appendix 4-A contains terms and definitions used in this chapter.

4.2 Requirements/Regulatory Summary

This chapter and its supplements conform to the requirements of DOE Order 232.1, "Occurrence Reporting and Processing of Operations Information"; DOE Order 5484.1, "ES&H Information Reporting Requirements"; and California Labor Code Workers' Compensation laws.

4.3 Applicability

Individuals involved in incident notification, analyses, and reporting at LLNL must comply with all requirements specified in this chapter.

4.4 Incident Process

4.4.1 Initial Incident Notification and Management's Action

Laboratory employees are required to report all incidents that are neither planned nor typical of normal operations to their supervisors. Upon notification of an incident, the supervisor shall gather preliminary information to have a reasonably accurate picture of what happened, then notify management and the area ES&H team in the manner prescribed for the directorate. The environmental analyst on the ES&H team shall follow the Environmental Protection Department's notification procedures for any incident involving an environmental issue (see Chapter 3 of the *Environmental Compliance Manual*).

When necessary, the Associate Director (or his/her designee) shall notify the LEDO and Occurrence Reporting Duty Officer who will make the other required notifications to Laboratory and DOE organizations. It is important to note that initial notification to DOE must be made as soon as possible, and in some circumstances within two hours of an incident categorization.

NOTE: Care for injured personnel is the first priority following an incident. Contact the LEDO after these personnel have received proper attention.

4.4.2 Preserving the Incident Scene

Emergency response personnel must be notified immediately (dial 911) of any incident categorized as an emergency, as described in Chapter 3 of the *Health & Safety Manual*. The supervisor, lead experimenter, or senior person present at the scene of an incident is responsible for making the area safe and for preserving the scene. The incident scene must be preserved in a manner consistent with procedures for emergency control operations to retain valuable information for the incident analysis committee should one be appointed. This may include

- Preventing any physical items involved in the incident from being operated, moved, or otherwise altered; and impounding such items as necessary until the incident analysis is completed.
- Photographing (color photographs are preferable) the scene soon after the incident, with particular emphasis on spilled materials and tire marks; check each photograph carefully to determine that it is properly classified. The area ES&H team or personnel from Safeguards and Security can provide barriers, cameras, and other items if necessary.

If an incident analysis committee is appointed (see Section 4.4.4 for criteria), the chairperson shall arrange with the person in charge of emergency control activities (or the supervisor) to assume control of the scene as soon as it is safe to do so. The committee chairperson shall not release the incident scene for normal operations until all relevant information has been obtained. If more than one incident analysis committee is involved, the chairperson of each committee must agree to release the area and the physical items involved.

4.4.3 Supervisor's Incident Analysis

All incidents involving injury, illness, property loss, transportation of materials, radiological and hazardous wastes above threshold limits, release of toxic or radiological materials to the environment, or vehicle damage shall be analyzed by management. The purpose of an incident analysis is not to place blame but rather to identify the operational system errors and omissions (root causes) that brought about the incident so that they can be corrected to prevent a recurrence of the incident. The degree of evaluation is dictated by the severity of the event, its likelihood of recurrence, and other factors. The graded risk categories in Table 2 of the *LLNL Quality Assurance Plan* may be used for guidance.

The incident analysis must begin as soon as possible if all the facts that will help explain why and how the incident occurred are to be obtained free from excessive rationalization. An incident analysis conducted by the supervisor of the area involved usually gathers enough information to complete the required reports described in Section 4.5. However, one conducted by an incident analysis committee generally will be more detailed, independent, and thorough.

If preliminary information about the incident indicates that a formal committee analysis is not required, then an incident critique (as recommended by the *Radiological Control Manual*) may be performed. This critique must never be performed before an incident analysis because it can destroy the privacy of those individuals involved in the incident and cause them to suppress facts that may reflect on their personal competence and judgment.

4.4.4 Incident Analysis Committee

Incidents of a more serious nature require a thorough evaluation to obtain a better understanding of the event and measures necessary to prevent a recurrence. The ES&H team leader will assist the department head or division leader in determining if a committee should be appointed to conduct a formal incident analysis. An incident analysis committee is usually appointed because

- The incident presents a high risk to individuals, the environment, or to LLNL property.
- Significant loss of property or damage is involved.
- The cause of an incident is not readily apparent.
- There is a high likelihood that the incident will recur.
- Controls or barriers did not perform as expected.
- Management requests a thorough, independent analysis.

The incident analysis committee may consist of three to five persons, one of whom is designated by the manager to serve as chair. It is preferable for the chair to be from the line organization where the incident occurred. Hazards Control personnel are exempt from serving as chair. At least one member of the committee must have taken course HS0007 (Incident Analysis) or received training in DOE accident investigation. No member of the committee shall have supervisory responsibility for the area or for any person directly involved in the incident.

Further guidance on making appointments to the incident analysis committee, on incident analysis methodology, and on preparing incident analysis reports can be found in Supplement 4.08 of the *Health & Safety Manual*.

4.4.5 Management's Actions Following an Incident Analysis

Responsible managers shall decide on the corrective actions necessary to reduce the likelihood of a recurrence of an incident, considering both the practicality of implementation and the cost benefit. If the request for corrective action is from a judgment-of-need in an incident analysis report (described later in this chapter), managers will have 30 days to inform the appointing committee manager of their contemplated action and the estimated date of completion, or of their rejection of the recommendation. Copies of this document must be sent to their Directorate Assurance Office and the Hazards Control Incident Analysis Report Archive (L-383).

Hazards Control maintains a permanent central archive of all incident analysis reports, including the status of all corrective actions whether they are completed, contemplated, or rejected.

4.5 Reporting Procedure

This section describes the reporting procedure for the incidents listed below. Managers and/or employees may be expected to prepare the required reports.

- DOE reportable occurrences. (Contact the Directorate Assurance Manager.)
- High-risk or significant loss incidents. (Form LL-2574 is required.)
- Occupational injuries and illnesses reported to Health Services, as described in Section 4.5.2. (Supervisor's Illness and Injury Report (SIIR) and California Employer's Report of Occupational Injury or Illness Forms are required.)
- Property loss or damage exceeding the reporting threshold limits specified in DOE Order 232.1 and 5484.1 (An Occurrence Report and Form DOE F 5484.3 may be required.)
- Vehicle accidents causing damage in excess of any reporting threshold limits. (Forms CHP-555-03 and DOE F 5484.3 are required.)

The reporting threshold dollar amounts change periodically. Contact your Assurance Office, ES&H team, or the Occurrence Reporting Office for the current levels.

4.5.1 DOE Reportable Occurrences

Laboratory management must report emergencies and unusual and off-normal occurrences to DOE. (Note that DOE uses the word "occurrence" in its reporting system instead of the word "incident".) Upon discovery of an incident, immediately contact the Directorate's Assurance Office or Assurance Manager for assistance. Instructions for completing occurrence reports are available from the Occurrence Reporting Office (ext. 2-8966).

4.5.2 Injuries/Illnesses

Any Laboratory employee who is injured or becomes ill as a possible result of a job-related condition or accident must notify his/her supervisor or Laboratory contact, who must report the illness or injury to Health Services as quickly as possible. For subcontractors and visitors, the supervisor or Laboratory contact must report the injury or illness to Hazards Control Technical Support and Policy Development (TSPD) Division (ext. 2-5128) as quickly as possible. Emergency assistance for all cases may be obtained by dialing 911.

If the injured or ill individual seeks care at Health Services, the health care provider will conduct a medical evaluation, provide the needed treatment, and initiate the OSHA and Workers' Compensation processes. If the injured or ill employee is not evaluated by Health Services, the employee's supervisor must notify the Workers' Compensation Administrator (ext. 4-4499) in Health Services within one working day after learning of the possible work-related event. Health Services will then initiate the OSHA and Workers' Compensation processes as appropriate. If an injured or ill subcontractor or visitor is not evaluated by Health Services, the responsible Laboratory contact must notify the TSPD Division soon after learning of the possible work-related event.

OSHA Reporting. Once a supervisor, employee, subcontractor, or visitor notifies Health Services of an occupational illness or injury, Health Services will relay pertinent information to Hazards Control for purposes of OSHA reporting. Hazards Control will then initiate a SIIR and forward a copy to the employee's department so that a supervisor's incident analysis may be conducted. The results of the analysis are to be entered on the SIIR, and a copy of the completed form must be returned to the TSPD Division (L-384) within five workdays of the date of the incident. Other copies, as necessary, are retained in Hazards Control for five years. The original report is retained indefinitely. Instructions for completing the SIIR can be found on the reverse side of the form, or you may contact the area ES&H team for assistance.

If the onsite supervisor is an employee of a subcontractor firm, that subcontractor must report the accident in accordance with its contractual requirements. Reporting procedures for construction contractors are described in Supplement 1.11 of the *Health & Safety Manual*.

Hazards Control maintains OSHA Form 200 (Log and Summary of Occupational Injuries and Illness) for the Laboratory and each of its separate establishments. A summary of this form is posted in several locations throughout the Laboratory and its establishments from February 1 to March 1 each year for employees to review.

Workers' Compensation Reporting. Upon notification of an illness or injury by an employee or a supervisor, Health Services will provide the employee with the required Workers' Compensation forms within one working day of notification, as required by law. In addition, Health Services will send pertinent information to the Risk Management Office, the third-party administrator of Workers' Compensation claims, and Applied Risk Management.

Occurrence Reporting. Occupational injuries or illnesses resulting in a fatality, hospitalization, or three or more lost workday cases require an Occurrence Report. Supervisors must notify their Assurance Manager when such situations exist.

4.5.3 Property Damage/Loss

Any person who damages or loses property assigned to the Laboratory must notify his/her supervisor of the incident. The department having responsibility for the property shall

- Initiate an incident analysis to the extent necessary, as described in Section 4.4.3. Confirm the current DOE threshold reporting level requirements with the Directorate Assurance Office, ES&H team, or Occurrence Reporting Office.
- Notify the TSPD Division (L-384) and the Directorate Assurance Office in writing within five workdays if the loss exceeds the reporting threshold for cleaning (including decontamination), renovating, replacing, or rehabilitating structures, equipment, or property.
- Complete form DOE F 5484.3 for losses exceeding the reporting threshold and return it to the TSPD Division. This form is available from the ES&H team.

Property damage and loss may also need to be reported to DOE under the Occurrence Reporting requirements of DOE Order 232.1.

4.5.4 Vehicle Accident

Operators involved in an accident with a private or government vehicle (i.e., auto, bicycle, bus, truck, gas cart, aircraft, or boat) used for Laboratory business must verbally notify their supervisors soon after the accident. Operators shall also cooperate with law enforcement authorities involved, but should neither offer assumptions nor admit fault. If possible, operators should collect the following information from the incident scene that may assist in preparing other reports:

- The other party's name, address, phone number, license number, and insurance number.
- The names, addresses, and telephone numbers of all witnesses.
- Local police department reports.
- Reports made to rental vehicle companies and a copy of their damage report.

Any possible claims against the Laboratory must be reported to the Laboratory Risk Manager (L-708, ext. 2-7442).

Vehicle operators shall also

- Obey all applicable state and local regulations concerning vehicle accidents, and notify the appropriate law enforcement authorities of the accident as soon as possible.

- Report to the Protective Force Division at the first available opportunity to assist in the preparation of a California Highway Patrol Traffic Collision Report (CHP-555-03). This report is required for all motor vehicle accidents involving an injury or property damage that exceeds \$500.
- Complete a Motor Vehicle Accident Report (Form 91) and a Statement of Witness (Form 94), if applicable, and return them to Fleet Management within 24 hours.

Operators involved in an accident in a state other than California may have other legal obligations. Contact the Office of Laboratory Counsel (ext. 3-1960) for assistance if necessary.

Following an accident involving a motor vehicle used for Laboratory business, the operator's supervisor shall notify the appropriate ES&H team, the Protective Force Division, Fleet Management, and Risk Management. In addition, the operator's department shall conduct an incident analysis (as described in Section 4.4.3) and complete and return form DOE F 5484.3 to the ES&H team. This form is available from the ES&H team.

It should be noted that some incidents involving damage to DOE vehicles (e.g., tree limb falls on a legally parked vehicle, or a bookcase in the back of a truck topples over because of wind and damages the vehicle) are not reported to DOE as vehicle accidents. Instead, these incidents are classified as property damage and are reportable to DOE only if the damage exceeds the threshold levels specified in DOE Order 232.1. Refer to "Property Damage/Loss" in this section for further information and reporting requirements, or contact your ES&H team for assistance.

Other factors such as the release of hazardous or radioactive material above the threshold limits; a fatality; a major fire; and an onsite vehicle accident involving DOE property with damages above the limits established in DOE Order 232.1 or total loss of the vehicle, or involving a vehicle other than a motor vehicle or bicycle, make the incident a DOE-reportable occurrence. The operator's supervisor must verbally notify higher management immediately so that the proper notifications can be made.

4.6 Summary Reports

Summary reports on injuries, illnesses, and other incidents are available from Hazards Control and may be freely distributed within the Laboratory. Distribution of these reports outside the Laboratory requires approval of the Associate Director for Plant Operations. Summary reports on DOE-reportable occurrences are prepared by the ORO and distributed in accordance with DOE Order 232.1. Summary reports required by DOE Order 5484.1 are prepared and distributed by the TSPD Division. Upon request, the Risk Manager's Office can prepare summary reports on Workers' Compensation cases and claims for managers' use.

4.7 Responsibilities

4.7.1 Associate Director

The associate director (or his/her designee) is responsible for notifying the LEDO of any incidents.

4.7.2 Department Head/Division Leader

The department head or division leader is responsible for deciding if a committee should be appointed to conduct an incident analysis (see Section 4.4.4 for criteria). If preliminary information obtained about the incident indicates that a formal incident analysis is not required, then an incident critique may be performed as specified in the *Radiological Control Manual*.

4.7.3 Appointing Manager—Incident Analysis Committees

The appointing manager of an incident analysis committee is responsible for

- Reviewing the incident analysis report, giving careful attention to the judgments-of-need.
- Formulating a plan of action for those judgments-of-need over which he/she has control.
- Identifying those judgments-of-need that are the responsibility of other managers and sending a memo and a copy of the incident analysis report to those managers, the Assurance Office of each manager's directorate, the Hazards Control Incident Analysis Report Archive [L-383], and the Director's Office [L-1]. The memo should include the actions taken by the appointing manager, the judgments-of-needs for which each manager is responsible, and a statement indicating that a response to the actions for each judgment-of-need must be sent to the appointing manager within 30 days.
- Sending copies of the incident analysis report to other Laboratory organizations that might benefit from having information about the incident.
- Keeping the Incident Analysis Report Archive coordinator and the Directorate Assurance Office informed of the status of each corrective action. If no action is necessary, explain the reason for this decision.
- Sending a final memorandum closing out the judgments-of-need for a specific incident analysis to the Directorate Assurance Office, the Incident Analysis Report Archive [L-383], and the Director's Office [L-1].

4.7.4 Other Managers—Incident Analysis Committees

Other managers may be asked to address certain judgments-of-needs. In such cases, they are responsible for

- Deciding on the corrective action necessary, considering both the practicality of implementation and the cost benefit.

- Informing the appointing manager in writing of the actions to be taken, the date such actions will be completed, and the date the actions were actually completed; and for sending copies of this document to your Directorate Assurance Offices and the Incident Analysis Report Archive (L-383) in Hazards Control.

4.7.5 Supervisors

Supervisors are responsible for the following upon being notified of an incident:

- Referring all injured or ill employees to Health Services for treatment and initiation of the proper documentation.
- Referring all injured or ill supplemental labor employees to the vendor's health care provider for treatment and initiation of the proper documentation, and for reporting the incident to the TSPD Division.
- Notifying management, the Risk Manager, and the area ES&H team of the incident in the manner prescribed for the directorate.
- Gathering preliminary information to make a reasonable assessment of the cause of the event.
- Conducting an analysis of the accident, as described in Section 4.4.3.
- Completing the appropriate reports, provided that there is sufficient information.
- Completing and returning form DOE F 5484.3 to the ES&H team when applicable. This form is available from the ES&H team.
- Meeting the reporting time requirements under DOE Orders 232.1 and 5484.1.

4.7.6 Employees

Employees are responsible for notifying their supervisors of any job-related injury or illness, property loss, or vehicle damage and assisting in the completion of documentation as requested.

Injuries or Illnesses. If an employee is injured or becomes ill, he/she should report to Health Services for treatment and initiation of the appropriate documentation. If the incident occurs offsite, the employee should contact Health Services as soon as feasible.

Offsite Vehicle Accidents. Operators who are involved in an offsite accident with a private or government vehicle (auto, bicycle, bus, truck, gas cart, aircraft, or boat) used for Laboratory business are responsible for

- Notifying their supervisors immediately (if able) and the Protective Force Division.
- Notifying the appropriate law enforcement authorities of the accident. Operators are to cooperate fully, but should neither offer assumptions nor admit fault.

- Collecting information (e.g., the other party's insurance policy number and names, addresses, and telephone numbers of all witnesses) from the accident scene that may assist in preparing other reports.
- Obeying all applicable state and local regulations concerning the vehicle accident.

4.7.7 ES&H Team

The area ES&H team will assist managers in determining whether an incident analysis committee is necessary, assist supervisors with completing the SIIR forms in a timely manner, and follow the Environmental Protection Department's notification procedures for any incident involving an environmental issue.

4.7.8 Health Services Department

The Health Services Department is responsible for

- Initiating the proper documentation for occupational illnesses and injuries.
- Notifying the employee's supervisor, Hazards Control, and the Risk Management Office upon learning of an injury or illness.
- Providing comprehensive medical case management of employees with work-related injuries or illnesses.
- Giving a copy of California State Form 6331 to any employee who reports an occupational injury or illness within one working day after learning of the accident.

4.7.9 Hazards Control Department

The Hazards Control Department is responsible for

- Initiating a SIIR form and forwarding a copy to the injured's department, where an incident analysis will be conducted.
- Retaining a record of the SIIR report indefinitely.
- Maintaining OSHA Form 200 for LLNL and each of its separate establishments.
- Maintaining a permanent central archive of all incident analysis reports and the status of all corrective actions whether they are contemplated, completed, or rejected.

4.7.10 Risk Management Office

The Risk Management Office is responsible for

- Ensuring that claims are administered in a timely, efficient, and effective manner for employees and the Laboratory.
- Coordinating with the appropriate offices the resolution of insurance-related claims (e.g., auto, liability, third party).
- Preparing Form 5020 for all injuries or illnesses.

- Submitting Form 5020 to the Laboratory's Workers' Compensation administrator within five days of the incident.
- Preparing summary reports on Workers' Compensation cases and claims for managers' use.

4.8 Training

Training course EM2010 (Occurrence Reporting Under DOE Order 232.1) is required for managers, supervisors, and others involved in occurrence reporting activities.

4.9 LLNL Contacts

Contact the following as necessary:

- Health Services Department (ext. 2-7459)
- Occurrence Reporting Office (ext. 2-8966)
- Risk Management Office (ext. 2-7442)
- Workers' Compensation Administrator, Health Services (ext. 4-4499)
- ES&H Teams
- Hazards Control Technical Support and Policy Development (TSPD) Division (ext. 2-5128)

4.10 Supporting References and Standards

California Labor Code, Section 5401, "Claim form and notice of potential eligibility for benefits."

DOE Order 231.1, *Environment, Safety, and Health Reporting*, U. S. Department of Energy, Washington, DC.

DOE MAN 231.1, *Environment, Safety, and Health Reporting Manual*, U. S. Department of Energy, Washington, DC.

DOE Order 232.1, *Occurrence Reporting and Processing of Operations Information*, U. S. Department of Energy, Washington, DC.

DOE MAN 232.1, *Occurrence Reporting and Processing of Operations Information*, U. S. Department of Energy, Washington, DC.

DOE Order 5484.1, *ES&H Information Reporting Requirements*, U. S. Department of Energy, Washington, DC.

Code of Federal Regulations, Title 29, Part 1904, "Recording and Reporting Occupational Injuries and Illnesses," U.S. Department of Labor, Washington, DC.

Appendix 4-A

Terms and Definitions

accident	An incident that results in injury, illness, property loss, or environmental damage.
appointing manager	The manager who appoints an incident analysis committee, receives its report, and determines the judgments-of-need that should be implemented.
condition	Any as-found state, whether or not resulting from an event, that may have adverse safety, health, quality assurance, security, operational, or environmental implications.
danger	A high-risk hazard.
emergency	An incident requiring immediate control to prevent additional loss.
event	A real-time happening (e.g., pipe break, valve failure, environmental release, or loss of power).
hazard	A source of loss or harm.
incident	A sequence of events or conditions that could result in an accident and/or a reportable occurrence.
incident analysis report	A written report prepared by an incident analysis committee that describes the causes of an incident and identifies the judgments-of-need to avoid a recurrence.
occurrence report	A documented report to the DOE of an event or condition that meets the reporting criteria in DOE Order 232.1.
recordable injury/ illness	<p>An occupational injury or illness that must be formally recorded in the manner prescribed by DOE because it includes at least one of the following:</p> <ul style="list-style-type: none">• Fatality• Lost workday

- Diagnosed occupational illness
- Loss of consciousness
- Medical restriction of work or motion
- Transfer to another job
- Medical treatment other than first aid
- Repetitive trauma
- Admission to a hospital

reportable occurrence

An event or condition that must be reported to DOE.

risk

The likelihood that a hazard or other ES&H concern will cause a specific consequence. Risk is a function of two variables: (1) the estimated likelihood that the specific consequence will happen, and (2) the estimated severity of the consequence.

root cause

The most basic cause(s), which, if corrected, will prevent recurrence.

safe

A situation or state where the risks are acceptable.

supervisor

A member of management who is exercising direct control over and judging the performance of the work activities of another employee.